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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,510	09/02/2005	Stephan Hase	101215-175	9230

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EXAMINER

JANAKIRAMAN, NITHYA

ART UNIT	PAPER NUMBER
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2123

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/18/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/519,510

Applicant(s)

HASE ET AL.

Examiner

Nithya Janakiraman

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This action is in response to the application filed on September 2, 2005, with foreign priority date January 17, 2003. Claims 1-19 are presented for examination.

#### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
2. Regarding claim 1, preamble, the term "complex" is a vague and indefinite term, lacking a specific definition in either the specification or claim body. When comparing the claimed invention to the prior art to determine novelty or non-obviousness, it is unknown how to distinguish complex objects from non-complex objects.
3. Regarding claim 1, section c, it is unclear as to whether the term "factories" is a claim limitation. All claim limitations must be submitted in the body of the claim, rather than in parentheses. It is also unclear as to whether production sites are the equivalent of factories.

4. Regarding claim 1, section e, the terms "the finished products", "the factories", and "the delivery locations" all lack antecedent basis. All terms must be clearly defined in the body of each claim.
5. Regarding claim 1, section f, the term "at least a portion" is vague and indefinite. Claim scope is unclear as to how much data exactly is generated.
6. By extension, all claims depending from claim 1 are rejected as well.
7. Regarding claim 3, the "defined algorithms" are nowhere defined in the claim body.
8. Regarding claim 5, it is generally replete with difficulties under 35 U.S.C. 112, second paragraph. The following is to be regarded as exemplary of the types of problems found in claim 5.
9. All parenthetical statements must be presented and defined clearly in the body of each claim.
10. The terms "preferably for a year of sales", "preferably for three months", "preferably a delivery week", and "utilization and the like" are vague and indefinite and do not precisely and distinctly claim the subject matter. When comparing the claimed invention to the prior art to determine novelty or non-obviousness, it is unknown how to be certain of the exact scope of Applicant's claims.
11. It is also unclear as to whether each individual step of "the process steps a) to c) of claim 1" or a) to c) as a whole is included in the steps of claim 5.

12. In addition, the terms "firm order allocations" and "modular allocations" lack antecedent basis, and are used interchangeably with "demand numbers" and "assumptions". As a whole, claim 5 has no reasonably definite interpretation.

13. Regarding claim 6, the term "daily assumptions" lacks proper antecedent basis, as well as "demand numbers". It is unclear as to whether it is to be used interchangeably with "demand quantities" of claim 1. In addition, "...[W]hen the demand..." is in narrative and imprecise form. It is unclear as to what happens when the demand numbers are not automatically allocated to the production sites.

14. Regarding claim 9, the term "significant equipment features" and "heavy items" do not accurately and distinctly claim the subject matter. When comparing the claimed invention to the prior art to determine novelty or non-obviousness, it is unknown how to distinguish "significant equipment features" from insignificant equipment features, and "heavy items" from non-heavy items.

15. Regarding claim 13, the phrase "in the model on which the simulation is based distribution" is unclear as to what the simulation is based on. Under different circumstances, it may be reasonable to presume this is merely a typographical error, but in the context of the general state of the claims, the Examiner cannot make this presumption with any reasonable degree of confidence.

16. Regarding claim 16, terms such as "manufacturing" and "factories" must be removed from parentheticals and placed in the body of the claim. It is unclear as to

whether the terms are claim limitations, definitions, or otherwise. Also, the term "the product" lacks antecedent basis.

17. By extension, all depending claims are rejected as well.

18. Regarding claim 18, the term "complex" is a vague and indefinite term, lacking a specific definition in either the specification or claim body.

19. Regarding claim 19, the term "complex" is a vague and indefinite term, lacking a specific definition in either the specification or claim body.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

20. Claim 1 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Simulating order processing processes without output is not sufficient to be statutory subject matter, as there is no useful, tangible, or concrete result. All depending claims are rejected as well, as none of the depending claims in conjunction with claim 1 produce a useful, tangible, or concrete result.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

21. Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by

"Handbook of Simulation: Principles, Methodology, Advances, Applications, and Practice", edited by Jerry Banks (hereinafter Banks).

22. Regarding claim 1, Banks teaches:

Method for simulating order processing processes used for producing a complex product, in particular a motor vehicle (see page 546, "...computer simulation in design and operation of car and truck assembly plants as well as automotive components manufacturing plants"), characterized by the following steps:

a) entering into a data processing device demand quantities for at least one class of the product for at least one predefined period of time (see page 42, Figures 2.7 and 2.8, "Arriving Customer", "Schedule first customer arrival event", the queue of customers is the demand),

b) automatically adjusting, through use of a computer program installed on the data processing device, the demand quantities with predefined datasets that describe manufacturing capacities and/or (manufacturing) supplier capacities (see Figures 2.9, 2.10, "Is teller idle?", "Remove first waiting customer"),

c) automatically allocating the demand quantities or portions of the demand quantities to production sites (factories) (see Figure 2.9, "Set teller busy"),

- d) simulating the production and/or supply for the production based on the allocation in step c) (see Figure 2.9, "Schedule end-of-processing event"),
- e) automatically determining the distribution channels and simulating the distribution(s) of the finished products from the factories to the delivery locations (see page 561, Section 15.5.1 "Case Study: Distribution Chain Management"),
- f) storing and/or outputting at least a portion of the data generated in steps a) through e) (see Chapter 25, "Software for Simulation").

\*Note: the phrase "in particular, a motor vehicle" is given no patentable weight.

23. Regarding claim 2, Banks teaches:

Method according to claim 1, characterized in that the data sets used in the automatic adjustment of the demand quantities in step b) include restrictions with respect to the production sites and/or suppliers (see Section 15.3, "Applications in Major Component Plants").

24. Regarding claim 3, Banks teaches:

Method according to claim 1, characterized in that the demand quantities in step a) of claim 1 are determined by defining a first demand forecast for a first forecast time period (see Figure 2.9, "Schedule next customer arrival event, Save arrival time"), determining a second demand forecast for a second forecast time period by using stochastic processes derived from the first forecast (see Figure 2.9), and determining the demand quantities according to defined algorithms which evaluate the first and/or second demand forecasts (see Figure 2.9).



25. Regarding claim 4, Banks teaches:

Method according to claim 1, characterized in that the automatic adjustment in step b) of claim 1 includes a correction of the demand quantities so as to match the demand quantities to the manufacturing capacities and/or (manufacturing) supplier capacities (see Section 15.5.1, "Case Study: Distribution Chain Management" ).

26. Regarding claim 5, Banks teaches:

Method according to claim 1, characterized in that the process steps a) to c) of claim 1 include the following steps:

- defining preliminary demand numbers (demand forecast) for a first forecast time period, preferably for a year of sales (see page 42, Figures 2.7, 2.8, 2.10, "Arriving Customer", "Schedule first customer arrival event", "Collect time-in-system for customer", the queue of customers is the demand),
- generating by simulation dealer orders for a second forecast time period, preferably for three months (see figure 2.9, "Schedule next customer-arrival event, Save arrival time"),
- evaluating the preliminary demand numbers and dealer orders and determining an updated demand forecast for the second demand time period (see Section 1.10, "Verification and Validation"),
- matching the updated demand forecast for the second demand time period to the capacities of the production sites and/or the suppliers, and determining approved firm order allocations and/or modular allocations (see Table 2.2, "Number in System", "Teller Status"),

- generating the demand numbers (assumptions) for the defined time period, preferably a delivery week, by evaluating the approved firm order allocations, modular allocations and/or simulated buyer orders newly received by the dealers (see Figure 2.6),
- adjusting these demand numbers (firm orders) with respect to restrictions (capacity, utilization and the like) of the production site(s) and/or suppliers, and allocating the demand numbers (assumptions) to the production site(s) (see Figure 2.6).

\*Note: the phrases “preferably for a year of sales”, “preferably for three months”, and “utilization and the like” carry no patentable weight.

27. Regarding claim 6, Banks teaches:

Method according to claim 1, characterized in that the demand numbers for the defined time period are distributed over the daily assumptions, when the demand numbers are automatically allocated to the production sites (see Section 15.5.1, “Case Study: Distribution Chain Management”).

28. Regarding claim 7, Banks teaches:

Method according to claim 1, characterized in that the automatic allocation of the demand numbers to the production sites includes compiling daily schedules for the production sites (see page 562, “...the probabilistic and dynamic elements in the system, and hence estimated the overall performance of the given alternative...”).

29. Regarding claim 8, Banks teaches:

Method according to claim 6, characterized in that the automatic allocation of the demand numbers to the production sites includes breaking up the products specified in

the daily assumptions into their modules (see Section 15.4.1, "Case Study: Machining Cell Design Study in an Electrical Components Assembly Plant").

30. Regarding claim 9, Banks teaches:

Method according to claim 1, characterized in that the demand numbers include information about significant equipment features of the products ("heavy items") (see page 559, "...components, such as alternators, starters, fuel injectors, are made...").

31. Regarding claim 10, Banks teaches:

Method according to claim 1, characterized in that the model on which the simulation is based models several production sites (see page 557, "...a different plant for each major component").

32. Regarding claim 11, Banks teaches:

Method according to claim 1, characterized in that the model on which the simulation is based, includes parameters characterizing a production site, such as capacity limitations, work schedule models, and/or permanent staffing (see Section 2.2, "Basic Principles").

33. Regarding claim 12, Banks teaches:

Method according to claim 1, characterized in that in the model on which the simulation is based, a differentiation is made between dealers, in particular between dealers of the domestic market and importers (see Section 15.2, "Applications in Assembly Plants").

34. Regarding claim 13, Banks teaches:

Method according to claim 1, characterized in that in the model on which the simulation is based distribution, distribution channels are subdivided into distribution sub-channels (see Figure 2.6).

35. Regarding claim 14, Banks teaches:

Method according to claim 1, characterized in that the data generated in steps a) to e) of claim 1 include quantitative evaluations of process designs, assessments of strategies, for example with respect to managing disruptions, times for freezing orders, delivery times, delivery reliability, utilization of transportation means and/or costs (see Table 2.3, "Financial Planning").

36. Regarding claim 15, Banks teaches:

Method according to claims 1, characterized in that data from databases of real systems, in particular from databases of dealers and/or production sites, are automatically evaluated during the process (see Table 2.3, "Manufacturing Systems").

37. Regarding claim 16, Banks teaches:

Simulation system, which includes the modules "forecast", "firm orders", "assumptions", "production", and "distribution" (see Tables 2.1, 2.2), wherein the modules cooperate under the control of a computer program implemented on a computer system (see Chapter 25, "Software for Simulation") so that the following steps can be performed:  
a) entering into a data processing device demand quantities for at least one class of the product for at least one predefined period of time (see page 42, Figures 2.7 and 2.8,

"Arriving Customer", "Schedule first customer arrival event", the queue of customers is the demand),

- b) automatically adjusting, through use of a computer program installed on the data processing device, the demand quantities with predefined datasets that describe manufacturing capacities and/or (manufacturing) supplier capacities (see Figures 2.9, 2.10, "Is teller idle?", "Remove first waiting customer"),
- c) automatically allocating the demand quantities or portions of the demand quantities to production sites (factories) (see Figure 2.9, "Set teller busy"),
- d) simulating the production and/or supply for the production based on the allocation in step c) (see Figure 2.9, "Schedule end-of-processing event"),
- e) automatically determining the distribution channels and simulating the distribution(s) of the finished products from the factories to the delivery locations (see page 561, Section 15.5.1 "Case Study: Distribution Chain Management"),
- f) storing and/or outputting at least a portion of the data generated in steps a) through e) (see Chapter 25, "Software for Simulation").

38. Regarding claim 17, Banks teaches:

Simulation system according to claim 16, characterized in that the simulation system includes interfaces to databases of real systems, such as the databases of dealers and/or production sites (see page 815, "Input Data Analysis Capability").

39. Regarding claim 18, Banks teaches:

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Computer program product with a computer-readable storage medium for storing a program which enables a computer, after the program is loaded into the memory of the computer, to execute a process for simulating order processing processes for producing a complex product, in particular a motor vehicle, wherein the simulation includes the process steps according to claim 1 (see Section 25.2, "Software Selection").

\*Note: the phrase "in particular a motor vehicle" carries no patentable weight.

40. Regarding claim 19, Banks teaches:

Computer-readable storage medium for storing a program which enables a computer, after the program is loaded into the memory of the computer, to execute a process for simulating order processing processes for producing a complex product, in particular a motor vehicle, wherein the simulation includes the process steps according to claim 1 (see Section 25.2, "Software Selection").

\*Note: the phrase "in particular a motor vehicle" carries no patentable weight.

*Additional References*

41. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
42. US PGPub 2003/0055700: A system, method and computer program product are disclosed for generating supply chain statistics. Data is received utilizing a network from a plurality of stores, distributors and suppliers of a supply chain.
43. US Patent 6,701,201: A method and system for efficient allocation of limited manufacturing resources over time to meet customer demand.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nithya Janakiraman whose telephone number is 571-270-1003. The examiner can normally be reached on Monday-Thursday, 8:00am-5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on (571)272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NJ



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